

Lakefield Junction to Split Rock Construction Sequencing

Interstate Route

Total Weeks of Construction: 74

Total weeks with one or more subs on radial 161 kV feed: 18

Total weeks with a critical sub on radial 161 kV feed: 6

Phase	Weeks	Construction Contractor 1			Construction Contractor 2			Comment	
		Segment	Circuit Type	ROW type	Miles	Segment	Circuit Type	ROW type	
1	28	E	Single	New	18.5	B	Single	New	18.5
2	11	E	Single	New	7	A	Double	Existing	7
3	6	E	Single	New	4	C	Double	Existing	4
4	12	E	Single	New	8	D	Double	Existing	8
5	17	F	Double	Existing	11	N/A			

Notes:

- A route with significant new right-of-way allows:
- Shorter construction duration because two contractors can each work a segment in parallel. An all-double circuit route will allow only one segment out at a time in order to maintain electric service to substations along the existing 161 kV line.
- Temporary circuit configurations in order to provide looped service to critical substations.

This route provides approximately 30 miles of double-circuit construction in three congested areas: near Lakefield Junction sub, north of the Worthington airport and near Split Rock sub.

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3	6	E	Single	New	4	C	Double	Existing	4
4	12	E	Single	New	8	D	Double	Existing	8
5	17	F	Double	Existing	11	N/A			

6 weeks

18 weeks

37.5

48.5

74

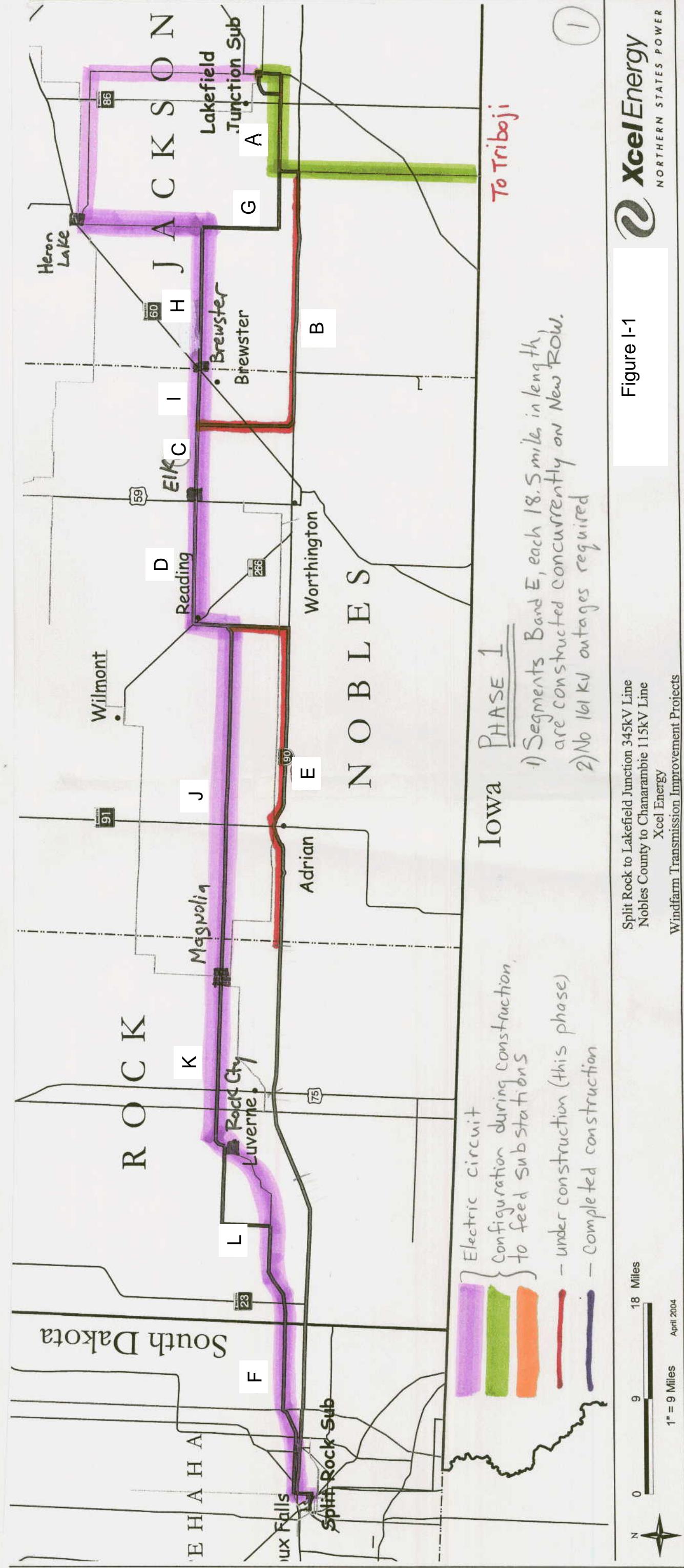


Figure I-1



NORTHERN STATES POWER

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4	12	E	Single	New	8	D	Double	Existing	8
5	17	F	Double	Existing	11	N/A			

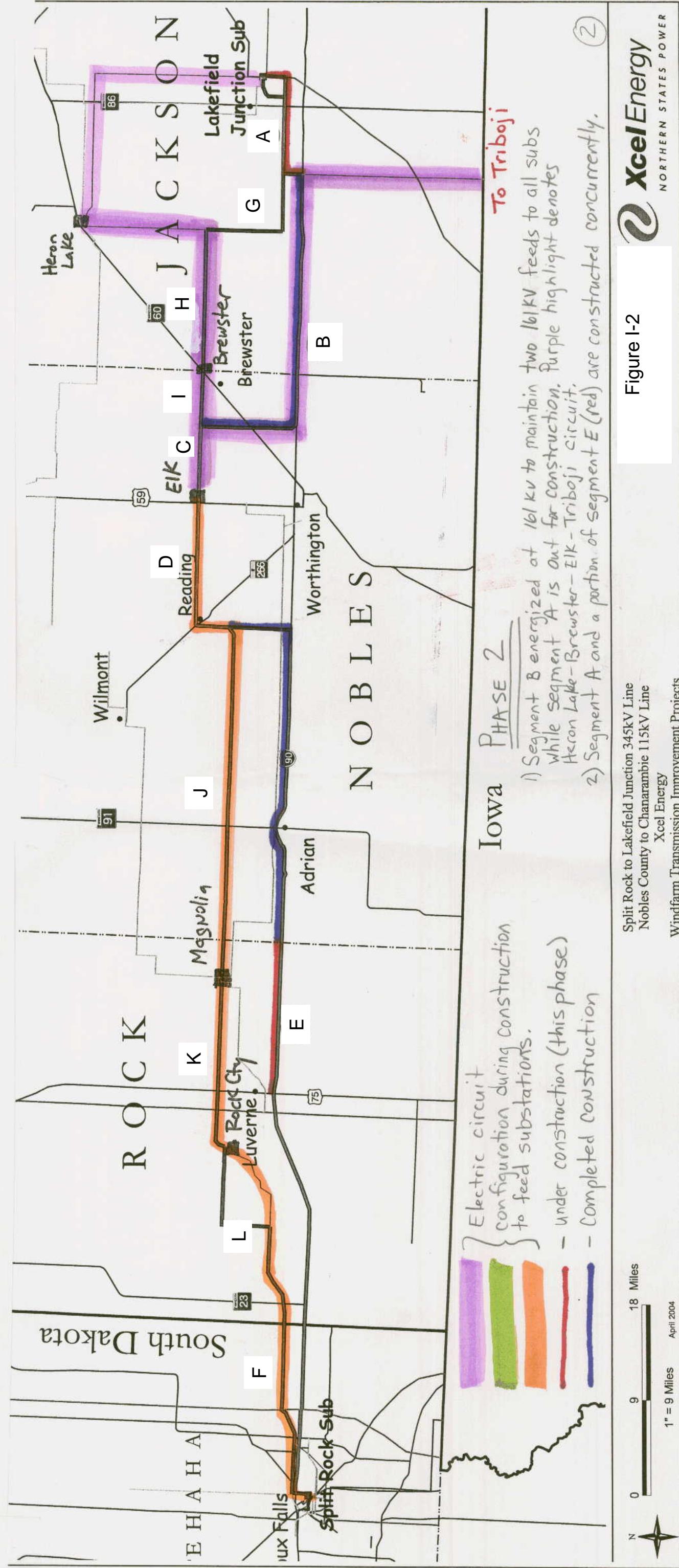


Figure I-2

Lakefield Junction to Split Rock Construction Sequencing

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Total weeks with a critical sub on radial 161 kV feed: 6

Construction Contractor 1						Construction Contractor 2						Comment
Phase	Weeks	Segment	Circuit Type	ROW type	Miles	Segment	Circuit Type	ROW type	Miles	Subs on Radial	Critical Sub on Radial ¹	
1	28	E	Single	New	18.5	B	Single	New	18.5	None	None	
2	11	E	Single	New	7	A	Double	Existing	7	None	New segment B energized at 161 kV to maintain loop feed to subs. Segment A de-energized for construction.	
3	6	E	Single	New	4	C	Double	Existing	4	None	Portions of 345 kV circuit energized to loop Brewster and Triboji.	
4	12	E	Single	New	8	D	Double	Existing	8	None	Portions of 345 kV circuit energized to loop Brewster, Triboji and Elk.	
5	17	F	Double	Existing	11	N/A				None	None	

Notes:

A route with significant new right-of-way allows:

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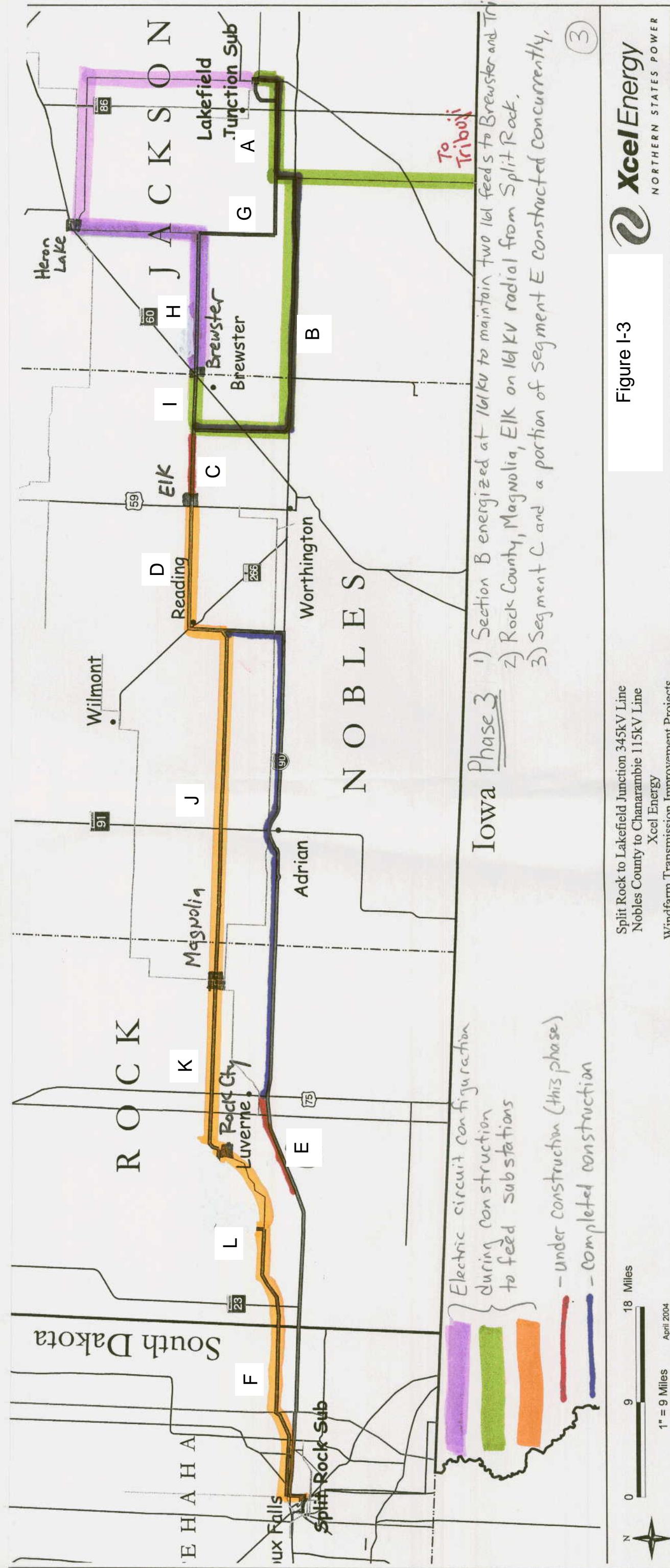


Figure I-3



NORTHERN STATES POWER

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		Segment	Circuit Type	ROW type	Miles	Segment	Circuit Type	ROW type	Miles	
1	28	E	Single	New	18.5	B	Single	New	18.5	None
2	11	E	Single	New	7	A	Double	Existing	7	New segment B energized at 161 kV to maintain loop feed to subs. Segment A de-energized for construction.
3	6	E	Single	New	4	C	Double	Existing	4	Elk, Magnolia, Rock City
4	12	E	Single	New	8	D	Double	Existing	8	Portions of 345 kV circuit energized to loop Brewster and Tribaji.
5	17	F	Double	Existing	11	N/A	N/A	N/A	N/A	Portions of 345 kV circuit energized to loop Brewster, Tribaji and Elk.

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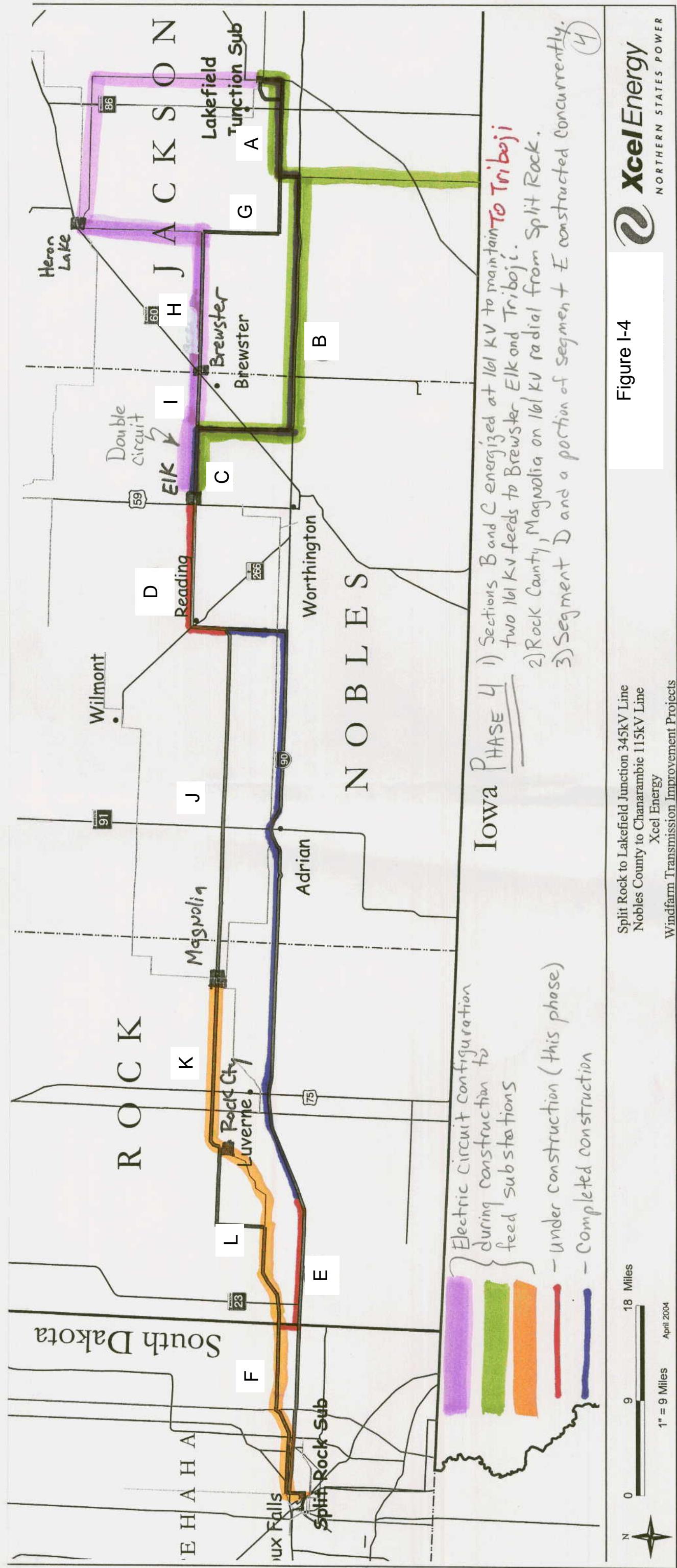


Figure I-4



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		Segment	Circuit Type	ROW type	Miles	Segment	Circuit Type	ROW type	Miles	
1	28	E	Single	New	18.5	B	Single	New	18.5	None
2	11	E	Single	New	7	A	Double	Existing	7	None
3	6	E	Single	New	4	C	Double	Existing	4	Elk, Magnolia, Rock City
4	12	E	Single	New	8	D	Double	Existing	8	Magnolia, Rock City
5	17	F	Double	Existing	11	N/A				None

Notes:

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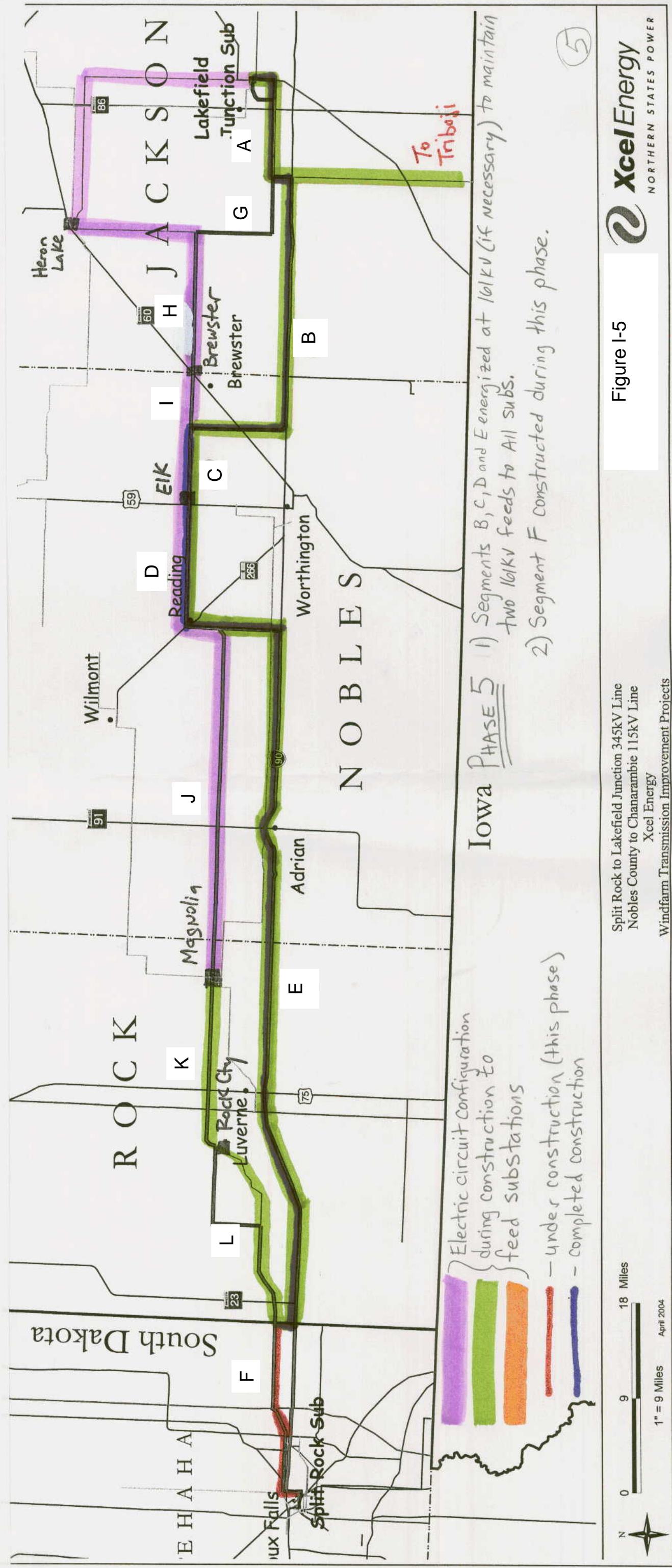


Figure I-5